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EXAMINER DULANEY, BENJAMIN O				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary

Application No.

10/668,360

Applicant(s)

OHYAMA ET AL.

Examiner

BENJAMIN O. DULANEY

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2003.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-54 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/CIS)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claim Objections

Claim 46 is objected to because of the following informalities:

Claim 46 currently depends upon claim 45, examiner believes it was intended to depend upon claim 24 as it is similar to claim 23 depending upon claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 1) Claims 7 and 30 recites the limitation "the value" in line 2. There is insufficient antecedent basis for this limitation in the claim.
- 2) Claims 11, 12, 34 and 35 recites the limitation "the conditions" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer

component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Non functional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32USPQ2d1031, 1035 (Fed Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 17660 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

3) Claim 53 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 53 defines a computer program embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e. "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" -Guidelines Annex IV). That is the scope of the presently claimed computer program can range from paper on which the program is written, to a program simply contemplated and memorized by a person. Any amendment to the claim should commensurate with its corresponding disclosure.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4) Claims 1-4, 6, 7, 9-13, 15, 20, 22-27, 29, 30, 32-36, 38, 43, 45-50 and 52-54

rejected under 35 U.S.C. 102(e) as being anticipated by U.S. patent application publication 2002/0141380 by Koguchi.

5) Regarding claim 1, Koguchi teaches an image processing apparatus comprising: a memory that stores image data (paragraph 76), the image data being in a first format; a format converter that converts the first format of the image data stored in the memory to a second format that is acceptable to an external device (paragraph 101); and a transmitter that transmits the image data in the second format to the external device (paragraph 102).

6) Regarding claims 2 and 25, Koguchi teaches the image processing apparatus according to claim 1, further comprising an image reader that reads an image on a document to thereby acquire the image data corresponding to the image (paragraph 75).

7) Regarding claims 3, 26 and 48, Koguchi teaches the image processing apparatus according to claim 1, wherein the second format is a general format that is acceptable to a general information processing unit (figure 8; PDF is a general format).

8) Regarding claims 4, 27 and 49, Koguchi teaches the image processing apparatus according to claim 1, wherein the format converter includes a compressor that compresses the image data stored and an expander that expands the image data compressed, and the format converter converts the first format of the image data expanded to the second format (figure 8; converting to and from JPEG performs expansion and compression).

9) Regarding claims 6, 29 and 50, Koguchi teaches the image processing apparatus according to claim 1, wherein the format converter includes a resolution converter that converts resolution of the image data stored to a predetermined value, and the format converter converts the first format of the image data resolution converted to the second format (paragraph 83).

10) Regarding claims 7 and 30, Koguchi teaches the image processing apparatus according to claim 1, further comprising a resolution setting unit that sets the value (paragraph 83).

11) Regarding claims 9 and 32, Koguchi teaches the image processing apparatus according to claim 1, wherein the format converter converts the first format of the image data stored to the second format based on any one or more of an attribute of the image data stored and information obtained from the external device (paragraph 83).

12) Regarding claims 10 and 33, Koguchi teaches the image processing apparatus according to claim 1, further comprising an image forming unit that forms an image on a recording medium based on the image data stored, wherein the format converter converts the first format of the image data stored to a third format that is acceptable to

the image forming unit (paragraph 103; figure 8; multiple formats are listed that can be continually converted from/to).

13) Regarding claims 11 and 34, Koguchi teaches the image processing apparatus according to claim 10, wherein the conditions are set based on information obtained from the external device (paragraph 83).

14) Regarding claims 12 and 35, Koguchi teaches the image processing apparatus according to claim 10, further comprising an operating unit that specifies the conditions and the external device (paragraph 72-75).

15) Regarding claims 13 and 36, Koguchi teaches the image processing apparatus according to claim 1, wherein the image data in the first format is an image data in a predetermined color-space, and the image data in the second format is an image data in monochrome (paragraph 75 and 83).

16) Regarding claims 15 and 38, Koguchi teaches the image processing apparatus according to claim 1, wherein the format converter includes a filter that filters the image data stored, and the format converter converts the first format of the image data filtered to the second format (paragraph 101; and format/resolution/color change would involve "filtering" the data into a different form of the data).

17) Regarding claims 20, 43 and 52, Koguchi teaches the image processing apparatus according to claim 1, wherein the format converter includes a color correction unit that carries out color correction of the image data stored, and the format converter converts the first format of the image data color corrected to the second format (paragraph 101; changing from color to monochromatic is a color correction).

18) Regarding claims 22 and 45, Koguchi teaches the image processing apparatus according to claim 1, further comprising: an image quality mode setting unit that sets an image quality mode of the image data that is to be stored in the memory; and a color correction parameter changer that changes a color correction parameter for the color correction according to the set image quality mode (paragraph 83).

19) Regarding claims 23 and 46, Koguchi teaches the image processing apparatus according to claim 1, wherein the format converter further includes a format setting unit that specifies the second format (paragraph 83).

20) Regarding claim 24, Koguchi teaches an image processing apparatus comprising: a printer engine that forms an image on a recording medium based on image data (paragraph 62), the image data being in a first format; a memory that stores the image data (paragraph 76); a format converter that converts the first format of the image data stored to a second format that is acceptable to an external device based on predetermined conditions (paragraph 101); a connecting unit that connects with a network, wherein the external device is connected to the network; and a transmitter that transmits the image data in the second format to the external device via the connection unit (paragraph 102).

21) Regarding claims 47, 53 and 54, Koguchi teaches a method of processing image data, comprising: reading an image on a document to thereby acquire image data corresponding to the image (paragraph 74), the image data being in a first format; storing the image data acquired (paragraph 76); converting the first format of the image data stored to a second format that is acceptable to an external device (paragraph 101);

and transmitting the image data in the second format to the external device (paragraph 102).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22) Claims 5, 8, 16-19, 21, 28, 31, 39-42, 44 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent application publication 2002/0141380 by Koguchi and further in view of U.S. patent 7,352,488 by Ben-Chorin et al.

23) Regarding claims 5 and 28, Koguchi does not specifically teach the image processing apparatus according to claim 1, wherein the format converter includes a multinary converter that increases number of gradations of the image data stored to thereby obtain multinary image data, and the format converter converts the first format of the multinary image data to the second format.

Ben-Chorin teaches the image processing apparatus according to claim 1, wherein the format converter includes a multinary converter that increases number of gradations of the image data stored to thereby obtain multinary image data, and the format converter converts the first format of the multinary image data to the second format (column 18, lines 8-10).

Koguchi and Ben-Chorin are combinable because they are both from the data formatting field of endeavor.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Koguchi with Ben-Chorin to add increasing gradations. The motivation for doing so would have been to better spectrally match colors for images to be printed (column 6, lines 52-53). Therefore it would have been obvious to combine Koguchi and Ben-Chorin to obtain the invention as specified by claims 5 and 28.

24) Regarding claims 8 and 31, Koguchi does not specifically teach the image processing apparatus according to claim 1, wherein the image data stored is color data and the format converter includes a color-space converter that converts color-space of the image data, and the format converter converts the first format of the image data color-space converted to the second format.

Ben-Chorin teaches the image processing apparatus according to claim 1, wherein the image data stored is color data and the format converter includes a color-space converter that converts color-space of the image data, and the format converter converts the first format of the image data color-space converted to the second format (Column 5, lines 55-65).

Koguchi and Ben-Chorin are combinable because they are both from the data formatting field of endeavor.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Koguchi with Ben-Chorin to add color-space

conversions. The motivation for doing so would have been to better spectrally match colors for images to be printed (column 6, lines 52-53). Therefore it would have been obvious to combine Koguchi and Ben-Chorin to obtain the invention as specified by claims 8 and 31.

25) Regarding claims 16 and 39, Koguchi does not specifically teach the image processing apparatus according to claim 1, wherein the format converter includes a half-tone processor that converts a gradation of the image data stored, and the format converter converts the first format of the image data gradation converted to the second format

Ben-Chorin teaches the image processing apparatus according to claim 1, wherein the format converter includes a half-tone processor that converts a gradation of the image data stored, and the format converter converts the first format of the image data gradation converted to the second format (Column 2, lines 54-55).

Koguchi and Ben-Chorin are combinable because they are both from the data formatting field of endeavor.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Koguchi with Ben-Chorin to add halftoning. The motivation for doing so would have been to better spectrally match colors for images to be printed (column 6, lines 52-53). Therefore it would have been obvious to combine Koguchi and Ben-Chorin to obtain the invention as specified by claims 16 and 39.

26) Regarding claims 17 and 40, Koguchi does not specifically teach the image processing apparatus according to claim 1, wherein the image data stored is colored,

and the format converter includes a color-gray converter that converts a the colored image data into grey, and the format converter converts the first format of the grey image data to the second format.

Ben-Chorin teaches the image processing apparatus according to claim 1, wherein the image data stored is colored, and the format converter includes a color-gray converter that converts a the colored image data into grey, and the format converter converts the first format of the grey image data to the second format (column 3, lines 30-36).

Koguchi and Ben-Chorin are combinable because they are both from the data formatting field of endeavor.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Koguchi with Ben-Chorin to add gray levels. The motivation for doing so would have been to better spectrally match colors for images to be printed (column 6, lines 52-53). Therefore it would have been obvious to combine Koguchi and Ben-Chorin to obtain the invention as specified by claims 17 and 40.

27) Regarding claims 18, 41 and 51, Koguchi does not specifically teach the image processing apparatus according to claim 1, wherein the format converter includes a gamma correction unit that carries out gamma correction of the image data stored based on predetermined gamma correction data, and the format converter converts the first format of the image data gamma corrected to the second format.

Ben-Chorin teaches the image processing apparatus according to claim 1, wherein the format converter includes a gamma correction unit that carries out gamma

correction of the image data stored based on predetermined gamma correction data, and the format converter converts the first format of the image data gamma corrected to the second format (column 20, lines 35-55).

Koguchi and Ben-Chorin are combinable because they are both from the data formatting field of endeavor.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Koguchi with Ben-Chorin to add gamma correction. The motivation for doing so would have been to better spectrally match colors for images to be printed (column 6, lines 52-53). Therefore it would have been obvious to combine Koguchi and Ben-Chorin to obtain the invention as specified by claims 18, 41 and 51.

28) Regarding claims 19 and 42, Koguchi does not specifically teach the image processing apparatus according to claim 18, further comprising a gamma value setting unit that sets the gamma correction data.

Ben-Chorin teaches the image processing apparatus according to claim 18, further comprising a gamma value setting unit that sets the gamma correction data (column 20, lines 35-55).

Koguchi and Ben-Chorin are combinable because they are both from the data formatting field of endeavor.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Koguchi with Ben-Chorin to add gamma correction. The motivation for doing so would have been to better spectrally match colors for

images to be printed (column 6, lines 52-53). Therefore it would have been obvious to combine Koguchi and Ben-Chorin to obtain the invention as specified by claims 19 and 42.

29) Regarding claims 21 and 44, Koguchi does not specifically teach the image processing apparatus according to claim 20, wherein the image data is in CMYK color model, and the color correction includes conversion of the image data in the CMYK color model to an image data in RGB color model.

Ben-Chorin teaches the image processing apparatus according to claim 20, wherein the image data is in CMYK color model, and the color correction includes conversion of the image data in the CMYK color model to an image data in RGB color model (Column 5, lines 55-65).

Koguchi and Ben-Chorin are combinable because they are both from the data formatting field of endeavor.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Koguchi with Ben-Chorin to add CMYK to RGB conversion. The motivation for doing so would have been to better spectrally match colors for images to be printed (column 6, lines 52-53). Therefore it would have been obvious to combine Koguchi and Ben-Chorin to obtain the invention as specified by claims 21 and 44.

30) Claims 14 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent application publication 2002/0141380 by Koguchi and further in view of U.S. patent 6,069,706 by Kajita et al.

Regarding claims 14 and 37, Koguchi does not specifically teach the image processing apparatus according to claim 1, wherein the format converter includes a binary converter that converts the image data stored into binary image data, and the format converter converts the first format of the binary image data to the second format.

Kajita teaches the image processing apparatus according to claim 1, wherein the format converter includes a binary converter that converts the image data stored into binary image data, and the format converter converts the first format of the binary image data to the second format (column 5, lines 59-67).

Koguchi and Kajita are combinable because they are both from the data formatting field of endeavor.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Koguchi with Kajita to add binary conversion. The motivation for doing so would have been to better spectrally match colors for images to be printed. Therefore it would have been obvious to combine Koguchi and Kajita to obtain the invention as specified by claims 14 and 37.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN O. DULANEY whose telephone number is

(571)272-2874. The examiner can normally be reached on Monday - Friday (10am - 6pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on (571)272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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